

REMARKS

This is intended as a full and complete response to the Office Action dated February 19, 2004, having a shortened statutory period for response set to expire on May 19, 2004. Claims 1-37 are pending in the application and are subject to a restriction requirement. Applicants confirm electing Group I, claims 1-21, with traverse. Claims 1-21 stand rejected. Applicants have amended the claims to more clearly recite aspects of the elected invention. Applicants have added new claims 38-40 to recite additional aspects of the elected invention.

The Examiner asserts that claims 1-37 are subject to a restriction and/or election requirement. Restriction to one of the following inventions is required under 35 U.S.C. §121.

- I. Group I, Claims 1-21
- II. Group II, Claims 22-37

Applicants elect Group I, apparatus claims 1-21, and have cancelled claims 22-37 without prejudice.

The Examiner has indicated that particular aspects of Information Disclosure Statements (IDS) previously submitted by Applicants fail to comply with 37 C.F.R. § 1.98(a)(2). Specifically, in the IDS of April 9, 2002, copies of foreign patent documents and other art are missing. Additionally, in the IDS of May 30, 2002, a copy of the *Lee, et al.* (C24) reference was unavoidably omitted. Applicants submit herewith a supplemental IDS containing the lost or omitted references.

Claims 2 and 13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Specifically, the Examiner cites insufficient antecedent basis for the limitation "the gas dispersion plate." Applicants have amended claims 2 and 13 to recite "the process gas distribution assembly comprises a gas dispersion plate." The process gas distribution assembly is recited in claims 1 and 12, from which claims 2 and 13 depend, respectively. As the basis for this rejection has been obviated,

Applicants respectfully request withdrawal thereof.

Claims 1, 3-7, and 10 stand rejected under 35 U.S.C. § 102(b) in view of *Kurono, et al.* (U.S. 5,779,803). Generally, the Examiner states that this reference discloses an apparatus containing each limitation of Applicants' claimed invention.

Applicants respectfully traverse these rejections. Specifically with regard to claim 1, the cited reference discloses an apparatus wherein "[a]n electrostatic chuck 40, for attracting and holding a wafer W by Coulomb force, is mounted on an upper surface of the lower electrode 4." (Column 3, Lines 33-36) The wafer supporting surface disclosed by *Kurono, et al.* is defined as a portion 40a of the surface of electrostatic chuck 40. (Column 3, Lines 38-40) The cited reference discloses as a suitable wafer to be used with the invention recited therein only a silicon wafer. (Column 5, Line 5) *Kurono, et al.* do not disclose or suggest a glass substrate. Applicants have amended the claims to more clearly recite that Applicants' invention comprises a glass support surface. Furthermore, the cited reference recites that "static electricity is generated on the surface of the film 42 due to polarization, with the result that the wafer W is attracted to the supporting surface 40a of the film 42 by the Coulomb force." (Column 3, Lines 47-50) The device described by *Kurono, et al.* is not described as being adapted to support a glass substrate as recited in Applicants' claims.

As *Kurono, et al.* does not disclose or suggest a glass substrate support, the cited reference does not teach, disclose or suggest each limitation of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

With regard to claims 3-7 and 10, as discussed above, the cited reference does not teach, disclose or suggest each limitation of independent claim 1, and therefore the claims depending therefrom are not anticipated. The Examiner is respectfully requested to withdraw these rejections.

Applicants note that dependent claim 7 has been cancelled and claims 4 and 6 have been amended to more clearly recite aspects of Applicants' invention with respect to the composition of the thermally insulating layer. *Kurono, et al.*

disclose only “two dielectric polymer films 42 and 43 and a conductive film 41 (e.g., copper foil) inserted therebetween.” (Column 3, Lines 35-37) The subject matter of Applicants’ claims 5-6 recite a thermally insulating layer comprising aluminum nitride, aluminum oxide, and combinations thereof.

With regard to the Examiner’s assertion that the cited reference anticipates claim 10, *Kurono, et al.* do not disclose an apparatus containing a frame to hold the thermally insulating layer on the surface as recited in Applicants’ claimed invention. Importantly, the cited reference does describe a hood which is disposed above the wafer, but this feature does not serve to secure the substrate, as during processing “the marginal portion 58 of the wafer w is covered by the hood 21 in a non-contact state.” (Figure 3 and Column 5, Lines 32-33)

In view of the above, Applicants respectfully request withdrawal of the rejection claims 1, 3-6, and 10 as amended.

Claims 1, 5-6, 10, 12, 15, and 17-18 stand rejected under 35 U.S.C. § 102(b) in view of *Matsuda, et al.* (Japanese Patent Publication 08-181113A). Generally, the Examiner states that this reference discloses an apparatus containing each limitation of Applicants’ claimed invention.

Applicants respectfully traverse these rejections. Specifically with regard to claims 1 and 12, Applicants have amended the claims to more clearly recite that Applicants’ invention comprises an apparatus having a glass support surface. The cited reference discloses only that a generated electrostatic force acts on wafer 6 (See [0018]) or wafer 23 (See [0003]). *Matsuda, et al.* make no mention of a glass substrate. In fact, the cited reference does not identify any suitable substrate material. The disclosure of electrostatic force to secure a non-described substrate fails to teach, show or suggest the glass support surface recited in claims 1 and 12, and claims depending therefrom.

Additionally, *Matsuda, et al.* does not disclose a process gas distribution assembly within the chamber. The American Heritage® Dictionary of the English Language, Fourth Edition, defines distribute as “to divide and dispense in portions.” An example of such distribution exists in Applicants’ disclosure of a

gas dispersion plate 18. (See Applicants' paragraph [0020]) *Matsuda, et al.* discloses only "a gas inlet (not shown)." (*Matsuda, et al.*, paragraph [0009]) The cited reference does not disclose a dispensing of divided portions of a process gas. As the cited reference does not disclose or suggest each limitation of Applicants' claimed invention, Applicants respectfully request that this rejections be withdrawn.

With regard to dependent claims 5-6, 10, 15, and 17-18, the cited reference does not teach, disclose or suggest each limitation of independent claims 1 and 12, and therefore the claims depending therefrom are not anticipated or obvious. The Examiner is respectfully requested to withdraw these rejections.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *Moslehi, et al.* (U.S. 5,976,261). The Examiner asserts that one skilled in the art, motivated by the teachings of *Matsuda, et al.*, alone or in combination with *Moslehi, et al.*, would have found Applicants' claimed invention, inclusive of the claim limitation of a gas dispersion plate comprising a heat reflective surface proximate the substrate, obvious.

Applicants respectfully traverse this rejection. The Examiner's rejection is based on the premise that *Matsuda, et al.* either anticipate or, standing alone or in proper combination with *Moslehi, et al.* render obvious, the invention recited by Applicants' independent claims. (See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988) (If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious). Applicants assert as stated above that *Matsuda, et al.* do not disclose or suggest each limitation of the invention recited in independent claim 1, and since dependent claim 2 recites each of the claim limitations recited in claim 1, *Matsuda, et al.* do not disclose or suggest claim 2 either.

As discussed above, *Matsuda, et al.* and *Moslehi, et al.* do not disclose an apparatus containing a glass support surface. Therefore, alone or in combination, the cited references do not teach, show, or suggest each claim limitation recited in Applicants' claim 2.

Additionally, to establish *prima facie* obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. (MPEP § 2143) As previously discussed, *Matsuda, et al.* fails to teach the process gas distribution assembly within the chamber recited in Applicants' independent claim 1. Although *Moslehi, et al.* disclose a gas dispersion plate comprising a heat reflective surface proximate the substrate, neither reference provides any motivation or suggestion to modify the invention disclosed in *Matsuda, et al.* to incorporate the disclosure of *Moslehi, et al.*

Therefore, the claimed invention is not obvious in view of a combination of these two references. In conclusion, the references cited by the Examiner, neither alone nor in proper combination, teach, show, or suggest the subject matter of claim 2.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *Kurono, et al.* The Examiner asserts that it would have been obvious to one of ordinary skill in the art to provide the substrate support of *Matsuda, et al.* with a heater as taught by *Kurono, et al.*

Applicants respectfully traverse this rejection. As discussed above, neither reference teaches the glass support surface recited in Applicant's claim 1. As such, the cited references in combination do not teach, show or suggest each claim limitation of Applicants' invention. Therefore, the Examiner is respectfully requested to withdraw the rejection.

Claims 7-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *Arai, et al.* (U.S. 5,203,958) Claim 7 has been cancelled. With respect to claims 8-9, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to adhesively bond the insulating layer to the support surface of *Matsuda, et al.* as taught by *Arai, et al.*

Applicants respectfully traverse this rejection. *Arai, et al.* do not disclose or suggest an apparatus containing a glass support surface. As discussed above, *Matsuda, et al.* also does not disclose or suggest a glass support surface.

Therefore, the combination of the two references does not teach or suggest a glass support surface.

In addition, *Matsuda, et al.* specifically discloses that the insulating layer sheets described therein are regularly exchanged to introduce a pristine insulating layer when the existing layer deteriorates. (See [0020]) As exchange of the insulating layer is impractical if the insulating layer is bonded to the substrate support, adhesively or otherwise, *Matsuda, et al.* implicitly teach away from modifying the apparatus by bonding the insulating layer to the support surface. Therefore, Applicants respectfully request the Examiner withdraw the rejection.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *Tsubone, et al.* (U.S. 5,673,750) *Tsubone, et al.* do not disclose an apparatus containing a glass support surface. As discussed above, *Matsuda, et al.* does not disclose a glass support surface. Therefore, the combination of the two references does not teach or suggest a glass support surface. Therefore, Applicants respectfully request the Examiner withdraw the rejection.

Claims 12, 14-15, 17-18, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *White, et al.* (U.S. 5,352,294). Specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to raise the frame of *Matsuda, et al.* with the movable substrate support as taught by *White, et al.* to reduce the apparatus' footprint.

Applicants respectfully traverse these rejections. As claims 14-15, 17-18, and 20 depend from claim 12, the dependent claims are not obvious if claim 12 is nonobvious. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, (Fed. Cir. 1990).

There exists no suggestion or motivation in either *Matsuda, et al.* or *White, et al.* to make the combination suggested by the Examiner. In order to so provide, the reference "must suggest the desirability and thus the obviousness of

making the combination.” *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5 (Fed. Cir. 1986). Rather, a lack of desirability to incorporate the movable substrate support as taught by *White, et al.* is presented by *Matsuda, et al.* as the latter disclose an apparatus containing an elevating device which raises and lowers the wafer presser foot 13. (See Figure 3 and [0016]) Having such a device disposed within the footprint of the apparatus, inclusion of the movable substrate support as taught by *White, et al.* would not reduce the apparatus’ overall footprint. As no suggestion or motivation to modify the apparatus disclosed by *Matsuda, et al.* with the teachings of *White, et al.*, the combined references do not teach, show, or suggest Applicants’ claimed invention as recited in independent claim 12, or the claims depending therefrom. The Examiner is therefore respectfully requested to withdraw these rejections.

Claims 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *White, et al.*, as applied to claims 12, 15, and 17-18, and in further view of *Moslehi, et al.* Specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to combine the gas dispersion plate taught by *Moslehi, et al.* with the abovementioned combination of *Matsuda, et al.* in view of *White, et al.*

Applicants respectfully traverse this rejection. As discussed above, *Matsuda, et al.* and *White, et al.*, alone or in proper combination do not teach, show, or suggest Applicants’ claimed invention as recited in independent claim 12. *Moslehi, et al.* do not provide the motivation missing from the other references and hence combination thereof with *Moslehi, et al.* does not teach, show, or suggest claim 13, depending therefrom. The Examiner is therefore respectfully requested to withdraw this rejection.

Claims 16 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *White, et al.*, as applied to claims 12, 15, and 17-18, and in further view of *Arai, et al.* Specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to combine the polymer insulating layer taught by *Arai, et al.* with the abovementioned combination of *Matsuda, et al.* in view of *White, et al.*

Applicants respectfully traverse these rejections. Claims 16 and 21 are herein amended and the subject matter of original claims 16 and 21 is not currently claimed by Applicants. As the basis for this rejection has been obviated, Applicants respectfully request these rejections be withdrawn.

Claims 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Matsuda, et al.* in view of *White, et al.*, as applied to claims 12, 15, and 17-18, and in further view of *Tsubone, et al.* Specifically, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to combine the frame disclosed in *Tsubone, et al.* with the abovementioned combination of *Matsuda, et al.* in view of *White, et al.*

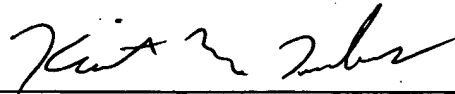
Applicants respectfully traverse this rejection. As discussed above, *Matsuda, et al.* and *White, et al.*, alone or in proper combination do not teach, show, or suggest Applicants' claimed invention as recited in independent claim 12, and hence do not in combination with *Tsubone, et al.* teach, show, or suggest claim 19, depending therefrom. The Examiner is therefore respectfully requested to withdraw this rejection.

Claims 20 and 21 stand rejected under 35 U.S.C. § 101 based on statutory double patenting. Specifically, the Examiner's asserts that these claims are substantially duplicative of claims 15 and 16, respectfully. Applicants have amended claims 15-16 and 20-21. As these claims are no longer duplicative, the Examiner is respectfully requested to withdraw these rejections.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

In conclusion, the cited references, alone or in proper combination do not teach, show, or suggest Applicants' claimed invention. Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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